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GEO. W. YORK, ASSISTANT EDITOR.

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Editorial Buzzings.

I May Not Reach the heights I seek,
My untried strength may fail me;
Or, half-way up the mountain peak,
Fierce tempests may assail me.
But though that place I never gain,
Herein lies comfort for my pain—
I will be worthy of it.

The Blood of bees is not red, but it is colorless.

Enthusiasm and perseverance are the peculiar characteristics of bee-keepers.

We Regret to learn that our friend D. A. Jones (editor) and Mr. Somers (proprietor) of the *Canadian Bee Journal*, are both laid up with *La Grippe*. As the Spring weather comes, they will no doubt be able to throw off its baneful influence, and we hope will fully recover their former health and strength.

Once More we have cause for rejoicing; the trouble about importing queen-bees free of duty has been arranged again. When the new tariff went into effect, queens were charged a duty of 20 per cent. We made a fuss about it in the AMERICAN BEE JOURNAL, and *Gleanings*, and obtained temporary relief. Now permanent relief has come, by a decision to that effect by the Secretary of the Treasury—and they are now in the same category as "animals for breeding purposes," even though they are not "regularly entered in recognized herd-books." We are, no doubt, indebted to Frank Benton, now an attache of the Department of Agriculture, and to Prof. Willits, late of the Michigan Agricultural College.

The Kentucky Agricultural Experiment Station, of the State College at Lexington, Ky., has sent to us Bulletins Nos. 36, 37, 38 and 39, treating of various subjects of great interest to all Kentucky farmers. Copies of Bulletins of this Station can be had free, by sending name an address to the Kentucky Agricultural Experiment Station, at Lexington, Ky.

Self-Hiving Arrangements are now receiving considerable attention on the part of the inventive geniuses in the bee-keeping fraternity. Mr. Wesley Dibble, of Middleburgh, N. Y., has sent excellent photographs of his self-hiving device, to be placed in the BEE JOURNAL album. They will be placed therein for the inspection of visiting bee-keepers.

Mr. C. A. Phenicie, of Tacoma, Wash., is dead. He had been an earnest student of apiculture for the past twelve years, having, the past year, 84 colonies of bees, which will be cared for by his son. We extend our sympathy to the bereaved ones.

Good Honey is about one-third heavier than water.

Governmental Aid for the pursuit of apiculture is at once so apparent in its necessity and advisability, that scarcely any discussion of the subject is demanded. Some of the principal points relating to the subjects to be investigated by the proposed aid, are fully and clearly indicated in the able article by Mr. P. H. Elwood, ex-President of the North American Bee-Keepers' Association, as published on page 542 of this issue of the BEE JOURNAL.

It has been very evident for years that the importance of the apicultural interests of the United States entitles it to fully as much, if not more, consideration at the hands of the Government than do those of silk-culture and ornithology, which are now elevated to Independent Divisions in the Department of Agriculture. To be recognized as a "section" in the Division of Entomology is something, certainly, but compared to the position which the great pursuit of apiculture is entitled to, it is far beneath its just due.

We believe that when there is a united demand, on the part of the progressive apiarists of our country, for proper recognition on the part of our Government, such aid as we now so much need in the line of helpful experimentation in various directions, will be accorded to us; and then will we begin to witness such forward strides, both in scientific and practical bee-keeping, the like of which has not as yet been dreamed of by our most imaginative apiarian dreamers and enthusiasts.

Mr. Elwood has named a few, and we will not attempt to enumerate more, of the live, unsettled questions that such an experiment apiary established at Washington might undertake to answer and settle by careful and painstaking investigation, as proposed in the suggestions mentioned in the article under consideration. After those already named have received the necessary attention to arrive at a settlement, others will be forthcoming with sufficient rapidity to claim all the time and means at the command of the Superintendent and assistant of such Apicultural Division as is proposed.

Let the subject be agitated until our just requirements are allowed, and the National Government extends its fostering care. Let every bee-keeper's influence be used to the attainment of their rights and privileges as worthy agriculturists and patriots. Let the united assistance and wisdom of every lover of our useful pursuit be enlisted in this common cause, until victory shall be won, and apiculture takes its rightful position among the most honored industries of the world.

Mr. Alpaugh, of Canada, claims to have discovered a new system of bee-keeping, which as yet is not made public. Mr. D. A. Jones has described in the *Canadian Bee Journal* what he thinks he knows about it. From that, a correspondent presents this condensed statement:

The system is, I think, that of placing a hive between 2 colonies and starting a colony in the central hive. The colony in the central hive is to be devoted to the storing of the surplus, while the two outside colonies are to be "feeders" to the central colony.

These outside colonies are to be manipulated something as the old hive is managed by the Heddon system of preventing after-swarming.

When the three hives are standing all in a row, close to each other, the entrances all facing one way, the outside hives are to be reversed—their entrances turned in the opposite directions. This would throw the working force all into the central hive. The outside hives are again brought gradually around so that their entrances are the same as that of the central hive, only to be again reversed, throwing another force of bees into the central hive.

Swarming is prevented, and great crops secured. Just how all this is to be managed to make of it a success Mr. Alpaugh has not yet told, but he is wonderfully enthusiastic over his plan.

Even One colony of bees, if a success, will produce honey enough to furnish much enjoyment to the family.

Spraying of Fruit-Trees and other plants has come to be a necessity in order to secure a profitable yield so as to sufficiently remunerate the grower for the time, care and labor spent in cultivation. But that the doing of anything so necessary to the success of the fruit-grower should be performed in a way, and at a time, which should prove detrimental to the interests of the fruit-growers' best friends—the bee-keepers—would be much regretted, were it not for the fact that such spraying, if *properly* done, will in no wise result in loss to the apiarists.

Bulletin No. 7, as issued by the United States Department of Agriculture, and to which we referred on page 505, gives full directions for making and applying the various poisonous compounds used in spraying for the destruction of the harmful pests, and states very decidedly that "no spraying as described by the Department has ever resulted in the slightest deleterious effects upon the fruit subjected to it." This will be welcome information to all who feared that the spraying had caused poisoning among those who had partaken of fruit which had been sprayed. It thus behooves all who employ this means of protecting their fruit, to follow carefully the *modus operandi* as given by the Department of Agriculture.

On the subject of preparing the arsenites (London purple, Paris green and white arsenic) for spraying purposes, the Bulletin says:

The poisons should be thoroughly mixed with water at the rate of from 1 pound to 100 to 150 gallons of water, and applied with a force pump and spray nozzle. In preparing the wash, it will be best to first mix the poison with a small quantity of water, making a thick batter, and then dilute the latter and add to the reservoir or spray tank, mixing the whole thoroughly.

When freshly mixed, either London purple or Paris green may be applied to apple, plum, and other fruit-trees, except the peach, at the rate of 1 pound to 150 to 200 gallons, the latter amount being recommended for the plum, which is somewhat more susceptible to scalding than the apple. White arsenic does little, if any, injury at the rate of 1 pound to 50 gallons of water when freshly mixed.

As shown by Mr. Gillette, however, when allowed to remain for some time (two weeks or more) in water, the white arsenic acts with wonderful energy, scalding when used at the rate of 1 pound to 100 gallons from 10 to 90 per cent of the foliage; the action of the other arsenites remains practically the same, with perhaps a slight increase in the case of London purple.

With the peach these poisons, when applied alone, even at the rate of 1 pound to 300 or more gallons of water, are injurious in their action, causing the loss of much of the foliage.

By the addition of a little lime to the mixture, London purple and Paris green may be safely applied, at the rate of 1 pound to 125 to 150 gallons of water, to the peach or the tenderest foliage, or in much greater strength to strong foliage, such as that of the apple or most shade trees.

Whenever, therefore, the application is made to tender foliage, or when the treating with a strong mixture is desirable, lime water, milky, but not heavy enough to close the nozzle, should be added at the rate of about 2 gallons to 100 gallons of the poison.

In spraying apple-bloom, which perhaps as much as any other (if not more) affects the bees most seriously when not applied at the proper time, the Bulletin continues thus:

With the apple, in spraying for the codling-moth, at least two applications should be made, *the first, after the falling of the blossoms, or when the apples are about the size of peas*, and the second a week or ten days later. The first brood of the codling-moth lays its eggs in the flower end of the young apple, and the worms upon hatching gnaw their way into the interior of the apple, and on sprayed trees get poisoned in so doing, an infinitesimal amount being sufficient to destroy so minute a worm. The second spraying is for the purpose of destroying larvæ hatching from eggs which may be laid after the first spraying, as the arsenic is gradually washed off by rains.

For the plum curculio on the plum, cherry, peach, etc., two or three applications should be made during the latter part of May, and the first half of June. The poison in this case is applied for the

purpose of destroying the adult curculios which hibernate and gnaw into the young growth of the trees, and even into the hard young fruit before laying their eggs. The eggs are pushed under the skin so that the larvæ are not ordinarily affected by the poisoning.

In the case of most leaf-feeding insects one should spray on the first indication of their presence.

Treating the subject of spraying from a purely hygienic stand-point, several instances are cited where careful experiments have been made to ascertain what possible deleterious effects could arise from the consumption of fruit to which had been applied the arsenites so deadly to the codling-moth and other parasites. Regarding the eating of apples that were so treated, the following reference is made:

In case of spraying apple orchards for the codling-moth, there is scarcely a possibility of injury to the consumer of the fruit. A mathematical computation will quickly show that where the poison is used in the proportion of 1 pound to 200 gallons of water (the customary proportion) the arsenic will be so distributed through the water that it will be impossible for a sufficient quantity to collect upon any given apple to have the slightest injurious effect upon the consumer. In fact, such a computation will indicate beyond all peradventure that it will be necessary for an individual to consume several barrels of apples at a single meal in order to absorb a fatal dose, even though this enormous meal be eaten soon after the spraying, and should the consumer eat the entire fruit.

As a matter of fact careful microscopic examinations have been made of the fruit and foliage of sprayed trees at various intervals after spraying, which indicate that after the water has evaporated, the poison soon entirely disappears, either through being blown off by the wind, or washed off by rains, so that after 15 days hardly the minutest trace can be discovered.

In order, then, to receive a fatal dose of the poison, an individual must "*consume several barrels of apples at a single meal!*" Whew! Please excuse us from such an experiment to test the poisonous effects of sprayed fruit! How foolish to suppose that one or two apples could possibly contain a sufficient amount of the poison to produce any apparent effect!

In the line of actual experiment as indicating the very finely divided state of the poison, and the extremely small quantity which is used to each tree, Prof. A. J. Cook, of the Michigan Agricultural College, has conducted some striking experiments. A thick paper was placed under an apple tree which was thoroughly sprayed on a windy day, so that the dripping was rather excessive. After the dripping had ceased, the paper (covering a space of 72 square feet) was analyzed, and four-tenths of a grain of arsenic was found. Another tree was thoroughly sprayed, and subsequently the grass and clover beneath it was carefully cut and fed to a horse without the slightest sign of injury.

The whole matter was well summed up by Prof. Riley, in a recent lecture before the Lowell Institute, in Boston, in the following words:

The latest sensational report of this kind was the rumor, emanating from London, within the last week, that American apples were being rejected for fear that their use was unsafe. If we consider for a moment how minute is the quantity of arsenic that can, under the most favorable circumstances, remain in the calyx of an apple, we shall see at once how absurd this fear is; for, even if the poison that originally killed the worm remained intact, one would have to eat many barrels of apples at a meal to get a sufficient quantity to poison a human being.

Moreover, much of the poison is washed off by rain, and some of it is thrown off by natural growth of the apple, so that there is, as a rule, nothing left of the poison in the garnered fruit. Add to this the further fact that few people eat apples raw without casting away the calyx and stem ends, the only parts where any poison could, under the most favorable circumstances, remain, and that these parts are always cut away in cooking, and we see how utterly groundless are any fears of injury, and how useless any prohibitive measures against American apples on this score.

Such, then, is the result of the investigation as made by the expert scientists

of the Department of Agriculture, and various State Agricultural Colleges. It should inspire confidence in the heart of every consumer of American fruits, and also cause every lover of justice and honor to co-operate in the efforts to establish and extend the knowledge of the harmless effects of sprayed fruits when such spraying is properly applied.

Mr. C. S. Walters, in the *Farmers' Home*, writes thus wisely on the subject, urging harmonious action on the part of horticulturists and bee-keepers:

The fruit and honey interests should work together, and for the latter it is very important that the spraying of trees should be done at the right time. It is an unnecessary and useless labor and expense to spray the fruit trees when in blossom. The proper time to have good effect is to spray immediately after the blossoms have fallen. Paris green and London purple must both be deposited on the fruit itself to have any effect, and this cannot be done when the blossoms are on the trees. The petals of the blossoms cover the fruit until they have withered and fallen from the trees.

Spraying the trees when the blossoms are on them is labor thrown away. Moreover, whole colonies of bees are killed off by eating such poison in the blossoms of the fruit trees, and this is the chief loss.

That the bees should ever receive their death at the hands of unwise fruit growers, is to be regretted, and perhaps cannot better be prevented than by seeing to it that all who must spray with poisonous compounds do so at a time which shall not endanger the lives of the bees, that are really the most helpful of all agencies in producing a bountiful yield of luscious fruits. If the presentation of simple argument will not have the desired effect in securing the respect of the fruit-growers, of course nothing remains except an appeal for the enactment of such legislation as shall protect bee-keepers from loss on account of carelessness and willful ignorance.

The apiarist cannot afford to lose his bees, and the farmer or fruit-grower cannot afford to kill the bees. They are a benefit to both, and should be protected in every way possible.

Bees and Farmers should always be the best of friends. Very often the bees are of more real benefit to the farm than the owner supposes. Their value is not entirely dependent upon the amount of honey they gather, but it would be difficult, indeed, to compute, or even estimate, their services in increasing the productiveness of fruits and other farm crops by acting as agents for the distribution of pollen. This fact is sufficient reason why a place should be made for them on every farm. If kept for no other purpose than the benefit they do to growing crops and fruit-bearing trees and plants, by spreading the pollen among the blooms, these industrious workers would be a valuable adjunct.

Testimony is abundant and conclusive as to the desirable effect of bees upon grape-vines, fruit-trees, and fruit-bearing plants generally. One prominent apiarist goes so far as to insist that a few colonies of bees, judiciously placed, will revive a fruit farm from a non-paying to a profitable investment.

Field crops, scientists tells us, and wide-awake farmers know from their own observations, are greatly assisted by the honey-bee's manipulations. Indeed, their influence is required for the perfect floral fertilization of some of the cereal crops and the meadow-grasses.

Where the farmer is too busy to give his personal attention to the production of honey, it is suggested that he buy a few colonies and turn these over to the care of his wife and daughters. They will find the "pin money" accruing from the sale of the honey a convenient and pleasant return for the labor and time spent among the bees.

The out-door occupation, too, will prove a welcome and healthful change from the in-door drudgery, which they can afford to hire done.

Foundation and Separators —Mr. Eri Kelley, of Rochester, Mo., on March 30, 1892, sent the following questions, desiring Dr. C. C. Miller to answer them, which he has kindly done:

1. Would you advise any one to use full sheets of comb-foundation in brood-frames? If so, what grade?

2. Would you advise me to use separators for surplus cases? If so, what kind is the best—wood or tin?

Bees are in fine condition here, so far.
ERI KELLEY.

1. In reply, I would say that while some few prefer to have only starters in brood-frames, I think that the great majority are in favor of filling the frame full. If there were no other reasons, it would be sufficient to say that by means of foundation you can make sure of having your frames filled with worker-comb. Having drone-comb in a hive is rather expensive business, as it not only gives you just so much less worker-brood, but it gives you a lot of idlers, with good appetites, for the workers to feed. It is also very nice to have the middle wall of the comb hang right in the center of the frame, and if bees build their own comb, they are not at all sure to build it so. Indeed, they are likely to make it corrugated. If the frames are not wired, then use heavy brood-foundation. But I think you will find it to pay you well to wire the frames. In that case you can use medium, or even light brood-foundation, making the cost per frame considerably less. Of course, the thinner the foundation, the more it costs per pound, but a pound of thin goes a good bit further.

2. If you have only 1 or 2 colonies, and expect to use the honey all in your own family, then it may be well enough for you to do without separators; but if you expect to ship, or even if the honey is to be handled much at a grocery, then it is better to use separators. As to the material for separators, there has been no little discussion, some contending for tin, and some for wood. Both are right, for it depends upon circumstances which is best. I have used them by the thousand of both kinds, and have found tin entirely satisfactory where wood would be a failure, and *vice versa*. If separa- are nailed on, as in wide frames, then tin is the thing, and means must be used to stretch it tight in nailing it on. A good plan is to have the frame fastened down with the top and bottom bar sprung together. This brings the end-bars nearer together, and, after nailing on the separator, when you release the frame, you will find the separator stretched as tight as a drumhead. If not stretched thus tight, then the tin will be wavy, and the sections on one side will be thin, while the other side will be bulged. But if separators are loose, as in T-supers, then the tin will not do at all, while wood will remain straight. But if the wood is nailed on, the swelling and shrinking that will occur, will make the wood wavy, in the other direction. So use tin for "fast," and wood for "loose" separators.—C. C. MILLER.

Not Much Loss in the wintering of bees is anticipated in the locality of Mr. J. H. Andre, who writes from Lockwood, N. Y., as follows, on April 11, 1892:

It is hard to tell how the bees have wintered, for, notwithstanding the first of the month was like Summer weather for several days, bleak, snowy weather is here again. Probably the loss will not be great where the management has been good—in fact, I think it never is. I hear the usual cry of robber-bees, which either means careless work in the apiary, or a few bees without a queen, looking for a chance to fly away.

Bulletin No. 3, of the Experiment Station at Pullmam, Wash., is received. It is a report of the Farmers' Institute held at Garfield, Wash., on Feb. 20, 1892. It gives the essays and discussions on "The Sugar Beet," "Farm Darying," "Wheat Growing," "Windbeeaks," etc. A copy may be had by addressing Pres. Geo. Lilley, at Pullman.

"The Days of April."

"The days of April," they are sweet, so sweet,
Flushing with tender green the meadow ways,
Where June will dance with her gay, gladsome feet,
To music of a thousand warblers' praise.

"The days of April," they are fair, so fair,
With precious promise in the budding flowers,
Promise of days all radiant, fresh and rare,
Mellowed by gentle dews and fleeting showers.

"The days of April," they are green, so green!
And maple buds grow brilliant in the sun;
Golden the brookside with the cowslips' sheen,
And fragile wind-flowers steal out one by one.

"The days of April," they are dear, so dear,
To hearts grown weary of the Winter cold,
Longing for sunny skies all blue and clear,
For birds to pipe, and blossoms to unfold.

"The days of April," they are bright and coy;
But one glad April, years and years ago,
Held more of charmed hope and love and joy
Than all my life again can ever know.

—ISABEL GORDON.

Queries and Replies.

Caging the Queen when Transferring.

QUERY 815.—I have some bees with valuable queens that I wish to transfer into a different frame. 1. Would it be better for me to cage the queens while I do the transferring, or let them take their chances with the bees? 2. If I caged the queens, would there be any danger of the bees killing them when I turned them loose?—North Carolina.

1. No. 2. Some.—JAMES HEDDON.

1. Yes, to cage her is safer. 2. No, if ordinary care is used.—R. L. TAYLOR.

1. Do not cage when transferring. 2. There would be some danger.—J. P. H. BROWN.

1. Hardly necessary to cage. 2. Hardly, if bees are working well.—C. C. MILLER.

If transferring is properly done, there is no danger for the queens.—DADANT & SON.

I have never caged queens when transferring, and in all of my experience I never lost one.—G. M. DOOLITTLE.

1. Let them take their chances with the bees. 2. I think not.—J. M. HAMBAUGH.

Drive both bees and queens into an empty hive or box before you begin to cut out the combs.—EUGENE SECOR.

1. I have always "let them take their chances," and have lost none. 2. Not if caged with some of the bees, and among the bees.—A. B. MASON.

I should let them alone. I have transferred many colonies, and never knew a queen to be lost or injured with care. I think there is very little danger.—A. J. COOK.

1. If you begin your work rightly, you will have no trouble with your queens. 2. If you do not get the bees mixed, you are in no danger.—H. D. CUTTING.

It would be a little safer to cage the queens, and if you let them run in with the bees when you shake back, there will be little or no danger of their being killed.—P. H. ELWOOD.

In transferring from one frame to another, there should be little risk of injuring the queen. It might be safer to cage her. There would be no danger in doing so.—J. A. GREEN.

1. It would do no harm to cage her, if you happend to see her, then she would be safe. If you do cage her, lay the queen among the bees to keep her warm. 2. There would be no danger.—E. FRANCE.

The only precautions required in transferring bees from one hive to another, is to prevent robbing. My book, "Bee-Keeping for Profit," and other standard works, give specific directions.—G. L. TINKER.

1. If you are a careful person, you can let the queens take their chances, if not, you would better cage them. 2. No, not unless you should let strange bees unite with the colony while you are transferring.—MRS. JENNIE ATCHLEY.

1. No; drive bees, queen and all into an empty box, transfer the combs, and hive the bees on them like an ordinary swarm. But why not wait until June, and then transfer by the Heddon method?—C. H. DIBBERN.

1. I would capture the queen before beginning the work, and as soon as some

of the frames are arranged in the new hive, I would put her into the new hive. 2. No, not if the transferring is done so as to keep the queens away from the bees but a short time.—G. W. DEMAREE.

1. If the transferring is done while honey is being gathered, there will be no danger in "letting the queens take their chances;" otherwise, it will be safer to cage them. 2. I do not think there will be any danger in turning them loose after transferring.—J. E. POND.

1. I would leave the queen with the bees; if the combs are in frames you can put some of them into the new frames, hang them in the new hive, and shake the bees and queen into the new hive, or in front of it, and let them run in. 2. Not if you leave the cage among the bees.—M. MAHIN.

1. Do the transferring when plenty of honey is coming in. As soon as a frame is filled with transferred comb, place it in the new hive. Keep a sharp watch for the queen, and, when found, let her run down between the frames in the new hive. 2. Usually, no; sometimes however, during a honey-dearth, they will kill their queen when disturbed for any purpose.—MRS. J. N. HEATER.

1. No; you have no occasion to cage the queen. Place a hive alongside of the one containing the swarm, and if you have a few frames of comb of the size you wish to use, lift out a frame with bees upon it carefully, and after satisfying yourself that the queen is not on that frame, with a soft brush-broom, brush the bees into the new hive; when you come to the frame containing the queen, she can be shaken or brushed carefully into the new hive with the bees.—MRS. L. HARRISON.

When Writing a letter be sure to sign it. Too often we get letters with the name of the post-office, but no County or State. One such came recently, and we looked into the Postal Guide and found there were places by that name in 13 States. Be sure to stamp your letter, or it may go to the dead letter office, in Washington, D. C.

The Amateur Bee-Keeper, by J. W. Rouse; 52 pages. Price, 25c. For sale at this office.

Topics of Interest.

Governmental Aid for Apiculture.

P. H. ELWOOD.

Apiculture is a branch of agriculture, and as such is entitled to the same fostering care extended by the government to other branches of the same occupation. As a pursuit it is a new comer, an "infant industry," and we should therefore expect it to be treated with exceptional favor. Instead of this, however, the 300,000 bee-keepers of this country have been almost wholly neglected.

There seems to have been enough money to spend on promoting the culture of silk, an article of luxury, but nothing for the production of honey, the most healthful sugar food in the world. Millions of dollars are freely offered for the production of cane sugar, an industury that needs the fatherly care of the government no more than does ours, if, indeed, it needs it as much.

Bee-culture is peculiarly important, because it saves a product that, unless gathered by the honey-bee, goes to waste; also because of the offices the bee performs in the fertilization of the flowers of fruits, grains, seeds, etc. These indirect benefits are probably quite as important as the primary work of honey gathering. We have now under Secretary Rusk, an effort by the government to protect us, for it has within the past year employed two able bee-keepers, Mr. Larrabee at the Michigan Agricultural College, and Mr. Frank Benton at Washington, to look after our interests.

This well-intended effort, however, is practically fruitless, since both of these men are under the direction of Chief Riley, of the Division of Entomology, who, no matter how distinguished as an entomologist, cannot be expected to know much about practical and scientific bee-keeping, not to be able to intelligently supervise the expenditure of money appropriated for experimental work in advanced bee-culture.

In proof of this assertion, notice the misdirection of the efforts of these two efficient men. Mr. Larrabee's time has been so fully occupied with the care and manual labor of the large Michigan College apiary as to leave him but very little time or energy for experimental work.

Mr. Benton, I judge, has a desk in some dark corner of the Division of Entomology, and he has no bees nor other facilities for practical work. He has had enough light and time allowed him, however, to prepare a bulletin, to be sent to farmers and others making inquiries as to how they shall commence bee-keeping.

Now, we do not need this kind of work at all, for we have plenty of hand-books and journals devoted to A B C instruction. What we need is advanced work —work that private individuals cannot perform because of expense, or lack of time or facilities for doing it. We do not care to have the government make any efforts to increase the number of bee-keepers until after it shall have made successful efforts to enlarge the markets for their products.

We hardly think that, in the fostering care the government extended to the cotton, iron, and other manufacturers, it ever became necessary to issue bulletins describing the best course for beginners to pursue in engaging in these occupations. The government can and should help us by making original investigation on the uses of honey in the arts and manufactures, and by collecting and disseminating information already known to the few, on these points; also by investigations as to the healthfulness of honey, by comparing its digestibility with that of cane sugar and other sugar and heat-producing foods.

The various diseases of bees, particularly the pest of foul-brood, should be investigated, and methods of treatment disseminated. The Canadian government has a foul-brood inspector, and also grants pecuniary aid to its national society for their efforts in promoting advanced bee-culture. Some parts of our country are said to be as badly afflicted with this contagious disease as is Canada; but we get no help, although it is expected that the Bureau of Animal Industry, a division of the Department of Agriculture, in charge of the diseases of domestic animals, etc., will call for an appropriation of one million dollars from the present Congress.

The important part the honey-bee performs in the fertilization of flowers should be so fully investigated as to make the results authoritative, and the report spread broadcast among farmers and fruit-growers. Bee-keepers now suffer serious loss from the prejudices of these classes who should be our strongest friends and supporters.

A number of disputed, as well as a number of undiscovered functions in the physiology of the honey-bee should be definitely established. It may be said that these do not concern the ordinary bee-keeper. Not so; for I have recently had occasion in practical bee-keeping to refer to several of the most obscure. An experiment apiary, conducted by so practical and skillful a bee-keeper as Frank Benton, ought also to establish many useful and important points in practical bee-keeping.

The different races of bees could be tested, and trustworthy reports made to their merits, without compelling a multitude of bee-keepers to invest of their hard earnings in making what are usually very imperfect tests. The trial of the so-called Punic bee by the bee-keepers of this country will probably cost thousands of dollars. Mr. Benton, with a few colonies of bees at his command, quite likely could have decided on their worthlessness at an expense of less than $25.

A statement has recently gone forth from one of our most distinguished State entomologists, Dr. Lintner, that it would be desirable for the destruction of certain insects that fruit-trees be sprayed with arsenical mixtures while still in bloom, and that he refrained from advising spraying at this time only because of the assertion of bee-keepers that it poisoned their bees.

The proof of this poisoning, while conclusive with bee-keepers, was not wholly so with Dr. Lintner (it is feared it will not be with fruit-growers), and he asked that conclusive experiments be made during the coming Spring. As the danger is imminent, and concerns the bee-keepers of many States, it would seem very appropriate that these experiments be conducted at Washington, and the results put into the hands of fruit-growers, so that, if we find it necessary to go into court, we may have proof that these untimely sprayers had knowledge of the crime they were committing.

It is not my purpose to discuss the merits of our system of governmental assistance; but it seems to me that, since other industries are reared and fattened at the government crib at our expense, we might now receive back a small percentage of the taxes levied on us for the maintenance of our older and stouter brothers.

Apiculture is now a section in the Dvision of Entomolgy; so at one time was ornithology; so was silk raising. Both have been raised to independent

divisions. I leave it to any intelligent man whether our pursuit is not of more importance than either or both of these divisions. I should be glad to fortify my position with statistics, but, unfortunately, we have none. The census enumerator informed me that he had no place on his blanks for honey. The least that we can ask is, that the section of apiculture be raised to an independent division, and that it be put under the supervision of some practical bee-keeper like Mr. Benton, of sufficient scientific and executive ability to perform the duties of the office.

I want to emphasize the fact that we shall have nothing satisfactorily done until the work is in charge of a bee-keeper. To ask an entomologist to superintend this work is like putting a lawyer in charge of a hospital, with a corps of physicians doing his bidding. A first-class experiment apiary should be established at Washington. Mr. Larrabee, or some other good man, should be called in as an assistant; and a chemist, botanist, and other help should be at the service of the superintendent at all times. Bulletins should be issued to bee-keepers, giving results of work done, and also giving crop reports, gathered a thoroughness and exactness impossible with the private enterprise now collecting them.

Lastly, Congress should remember the blow they dealt us when they removed the duty on cane sugar, the chief competitor of honey, and provide liberal means for carrying on this apicutural experiment station in the most thorough manner possible.

The State of New York expends about $12,000 yearly on farmers' institutes; $40,000 on experiment stations, and $92,000 on the dairy commission. Bee-keepers help pay for all this, but get no benefit. In justice, the State ought to appropriate at least a thousand dollars to be expended under the direction of practical bee-keepers in holding one or more bee-keepers' institutes or conventions, and for other necessary work in advanced bee-culture. Other States should do likewise. Illinois has already set the example. Our country is so large that it is difficult to maintain a national organization. With State aid this could be made a delegated body, with the traveling expenses of delegates paid.—*Gleanings.*

Starkville, N. Y.

[For editorial comments, see page 536.—ED.]

Experience with Italian Bees, Etc.

J. C. LILLIBRIDGE.

While the discussion of black *vs.* Italian bees is going on, I would like to give some of my experience with the latter. Different parties here have tried them at different times for the last 20 years, but they have been allowed to die out until I do not know of a colony at present within ten miles, if you except one that perhaps I have.

In the Fall of 1890 I bought a queen which produced very nice, gentle bees, but they died through the Winter.

Last Summer I bought another queen of one of our most noted breeders; she was a "tested" queen, but when her bees began to come out, oh, my! If the reader was ever a boy on a farm, who delighted in stirring up yellow jackets' nests, you can guess about how these bees acted. No, they were worse; for I always found that the yellow jackets would let me alone as long as I did them, but these bees are after me as soon as I go within ten feet of the hive, if they are flying. In color they range all the way from black to almost pure yellow.

I wrote to the breeder about them, but he says he only guarantees working qualities—not color or gentleness. But I am afraid I shall not be bothered with them any more, as they seem to have paralysis, or some other disease—large numbers coming out and dying on the alighting-board every time they fly. They have been so ever since they hatched.

If this is the way the bees of a tested queen act, the next time I shall order the cheapest hybrids I can get.

I can handle my blacks without smoke, veil or gloves, with very few stings. However, I am going to give the Italians a fair trial, as I believe they are the best, if I get them pure.

HONEY FROM BASSWOOD TREES.

Did the editor really mean to say in the foot-note on page 325, that basswood trees would bear blossoms in five years, and that "one tree should furnish enough honey for 3 or 4 colonies in a good season?" If so, they must be different than any we have. Here they do not blossom until (I think) about 20 years old; that is, in a natural state, and when sprouted from stumps. I have been at work in basswood timber more or less for the last 15 years, and

have noted closely, but still I may be wrong. Let us hear from others on this point.

Port Allegany, Pa.

[Yes; the editor wrote advisedly. Basswood trees are rapid growers. We know of trees which furnish a profusion of bloom after being set out ten years. Young trees, 6 feet high when set out, have been known to furnish a *fair* amount of blossoms after five years, in favorable localities. During a good yield of basswood, colonies of bees will frequently pay for themselves in ten days. Basswood honey often comes like a shower, in good seasons, giving the bees all that they can do to take care of it.—ED.]

How to Prevent Swarming.

G. W. DEMAREE.

When discussing this subject the temptation to argue the question, rather than to rely on a simple description of the manipulation resorted to, to accomplish the object in view, is very great. So many apiarists have imbibed the idea that some sort of contraction of the brood-nest is essential to the production of comb-honey, if not the extracted article, that any new discovery that runs counter to this idea of contraction meets a deaf ear, if not open opposition.

Let me say, once for all, that when a new discovery is applied to an old system, it often becomes necessary to revise the old system to accommodate it to the newly-applied discovery. These remarks apply not exclusively to the old system of bee-culture, but to all systems pertaining to all industries. Those persons who are determined to stick to the old paths of the past, are not in position to profit by any new discovery; and this essay is not written for that class of readers.

When your apiary is as large as you want it, what would you give to be able, by a simple, practical manipulation at the beginning of the swarming season, to hold all your colonies in full strength of working and breeding force steadily through the entire honey harvest? You can do it beyond a doubt, by practicing my new system of preventing swarming; and if you have the ingenuity to apply proper management to suit the *new condition*, your surplus yield will be larger than by any other method heretofore made known to the public.

I have practiced the new system largely for the past two seasons, and my surplus yield was never so large, though it is well known that the past two seasons were not above the average as honey-yielding seasons.

As I have already intimated, my plan of preventing swarming, and entirely preventing increase, is accomplished by one single manipulation right at the commencement of swarming. Only one hive and its outfit is used for each colony. Any system that requires a divided condition of the colony, using two or more hives, is not worthy of a thought.

In my practice, I begin with the strongest colonies and transfer the combs containing brood from the brood-chamber to an upper story above the queen-excluder. One comb containing some unsealed brood and eggs is left in the brood-chamber as a start for the queen. I fill out the brood-chamber with empty combs, as I have a full outfit for my apiary. But full frames of foundation, or even starters, may be used in the absence of drawn combs.

When the manipulation is completed, the colony has all of its brood with the queen, only its condition is altered. The queen has a new brood-nest below the excluder, while the combs of brood are in the center of the super, with the sides filled out with empty combs above the queen-excluder.

In 21 days all the brood will be hatched out above the excluder, and the bees will begin to hatch in the queen's chamber below the excluder; so a continuous succession of young bees is well sustained.

If my object is to take the honey with the extractor, I tier up with a surplus of extracting combs as fast as the large colony needed the room to store surplus. Usually, the combs above the excluder will be filled with honey by the time all the bees are hatched out, and no system is as sure to give one set of combs full of honey for the extractor in the very poorest seasons; and if the season is propitious, the yield will be enormous under proper management.

The great economy of this system is, all the colonies will produce as nearly alike as can well be—a condition of things that never occurs in any apiary swayed by the swarming impulse. If my object is fancy comb-honey, I tier the section-cases on the super that contains the brood, and push the bees to start all the combs they can; at the

close of the season I extract the honey from the combs in the super, and feed it back to properly prepared colonies to have the partly-filled sections completed. The nicest honey in sections that I ever produced was obtained in this way.

To feed back successfully, requires as much experience as any other work connected with the art of producing honey, but the theme is too broad for a place in this connection.

The system above described works perfectly if applied immediately after a swarm issues. The only difference in the manipulation in this case is, that no brood or eggs is left in the brood-nest, where the swarm is hived back.—*Read at the Ohio State Convention.*

Christiansburg, Ky.

Making Double-Hive Bottom-Boards.

I. E. MYERS.

On page 293, in detailing my double-hive bottom-board, I stated the size as being 32x62 inches. This is not right; the size, not including the alighting-board, is 20x36 inches. The passage from one hive to the other is cut out of the top rim of the bottom-board. These rims are ⅝ of an inch thick by one inch wide, nailed on each end of the boards, the size of the hive being 16¼x18 inches, inside measure. This completes the department of the brood-chamber, and receives the body of the same, which is ¼ of an inch deeper than the brood-frames, making ⅜ of an inch for a bee-space under them.

On page 479, Mr. M. Miller says: "Thick top-bars are all that is claimed of them. But how about that exact spacing? Must we adopt close end-bars to get the exact space? Is not the cure worse than the disease?"

I will try to give the answer to the above query. Thick top-bars and rigid frames are my favorites, but not the close-end frames.

I make my frames half-closed and half-open end, in the following manner: Hold up a frame in your hand, with one end next to you. Take ¼ of an inch wide off the right side of the end nearest you, and ¼ of an inch off the left side, from the end away from you, so that on changing the frame end for end, it will show the diminished side always to the right.

Now drive four No. 9 double-pointed tacks crosswise on the side diminished, near the top and bottom, two on each end; this will fill the place of the wood planed off in the rigidity of the frame, and allow ¼ inch bee-space to save their bend in the manipulation of the brood-chamber, and save also lots of propolizing joints between the ends of the frames. For the same reason I hang the frames on a nail driven in the end of the top-bar, in place of letting the top-bar extend in on the grooved edge of the brood-chamber of the hive.

Grant, Minn.

Spring and Summer Bee-Management.

HENRY STEWART.

In treating this subject, I would make special emphasis of the great importance of always keeping ahead of your work, and the management for next Summer should begin in the Winter, in the way of doing all such work as the making of hives, filling sections, etc. Always be sure you are fully prepared for a good honey season long before it reaches you.

During the months of August and September I had the pleasure of traveling over several counties in Illinois, Iowa and Wisconsin in search of cheap honey. On this trip I visited more than a hundred prominent bee-keepers, besides many smaller ones, and in response to the question, "What did your bees do for you this season?" it would be astonishing to see how many answers would be like this:

"Well, we had a good flow from basswood, and we got lots of swarms, but we were so busy with other work that we could not give the bees the attention they needed, and we didn't get much honey."

Too many bee-keepers are like the Arkansas traveler's house—when it does not rain their house does not need shingling, but when the "honey-showers" come, they are in no condition for shingling.

Spring management should begin with the first warm days of early Spring. If bees are wintered in the cellar, a close watch should be kept over them, to know that they are resting quietly until the weather is sufficiently warm to put them out on the summer stands, when the hives should be cleaned out and the light ones, if any, marked for feeding.

If wintered out-of-doors, the first work should begin by ascertaining the condition of each colony in the apiary as to stores. This can easily be done by taking hold of the front of each hive and

lifting it. If any light ones are found, they should be marked and examined carefully, and if in need of it they should be given food at once.

One of the great secrets of successful honey-producing is to have each colony of bees in a booming condition as soon as the honey-flow begins, and, with cheapness of sugar, I believe the subject of judicious feeding in both Spring and Fall management of bees to be a very important one, as it is a well known fact that with proper protection from the cold, and by feeding a few pounds of sugar, a very weak colony, with a good queen, can be brought up to a prime condition as soon as their services are needed.

FEEDING BEES IN THE SPRING.

I have seen and used several different kinds of feeders, but the simplest, cheapest and best feeder that I know, is simply this:

Prepare your hives for feeding by placing over the brood-frames an oil-cloth, pull it ahead so as to have an open space at the rear end of the hive, and on top of this place an empty super or extracting top. Now, take some small boxes, like cigar-boxes, wax the joints with hot wax and fill with syrup, and on top of this some pieces of broken sections for the bees to alight on, and place in the hives prepared for them. The entrance of all hives should be very nearly closed, and the greatest care should always be exercised not to excite robbing while feeding. For Spring feeding, prevent the heat of the cluster from escaping; the unused part of the super should be kept full of leaves, chaff or some other packing.

I winter my bees out-of-doors, snugly packed in rows, with Autumn leaves. I leave them in this shape until nearly the beginning of the white clover blossom, when I put them out on the summer stands, usually in a booming condition for the honey harvest, if it comes. At this season of the year no bee-keeper should be found without at least one set of sections or extracting tops already for the bees.

I will say but little about Summer management, save to emphasize the great importance of always keeping ahead of your bees, and working them for all there is in them, and this can only be done by some good system of tallying, frequent examinations, or watching the records of a scale hive. I consider this as almost one of the necessities of any well regulated apiary, as with it you have an accurate index to your business, and not guess what you are doing, and the amount of attention your bees are in need of.

Under Summer management comes a myriad of subdivisions, such as tiering-up of supers, frequent extracting, controlling of increase, location as to honey, source, etc., which I will not have time to even touch upon.

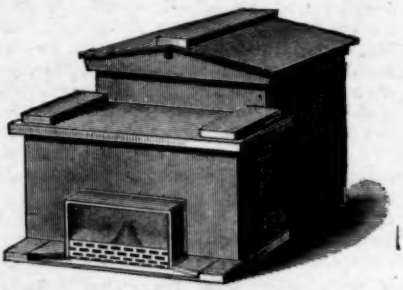
I will say, in conclusion, that, as the big crop of honey is where the profits come in in bee-keeping, study well your location and all the different managements, and adopt as yours those methods and fixtures which will give you the greatest number of pounds of honey in the best marketable shape.—*Read at the Eastern Iowa Bee-Keepers' Convention.*

Prophetstown, Ills.

The Drone-Trap as a Self-Hiver.

HENRY ALLEY.

On page 482, I mentioned that the drone-trap could be utilized as a self-swarm-hiver. I now present an illustration of the way the trap is arranged



The Alley Drone-Trap Self-Hiver.

to self-hive swarms when they issue. The illustration represents a colony of bees with an empty or decoy hive directly in front, and a drone-trap attached ready to catch the queen, in case a swarm issues.

A self-hiver is worthless without some provision for trapping the drones and getting them out of the way of the work-bees. The drone-trap swarmer does this in all cases.

There are so many different styles of hives in use that it is useless to attempt to give directions for making bottom-boards that will apply to all the styles of hives in use. Almost any one has sufficient intelligence to make the proper

arrangement for connecting the two hives.

All that is necessary, is to get the two hives as near together as possible, to save the bees the trouble of traveling too far to reach their brood-combs. This will be found quite an item in the course of the season.

As a large number of bee-keepers now have these traps, they, no doubt, will appreciate this new use of the drone-trap.

In arranging this device to catch a swarm, it is a good plan to put one brood-comb in the decoy hive. When the queen leaves the trap she will surely locate on the comb, and the bees, on returning to the hive after missing their queen, will readily find and make their home with her in the new hive.

If desirable to save the swarm, the bees should be removed to a new stand as soon as possible after being hived.

Wenham, Mass.

Rules for Judging Bees at Fairs.

THOMAS S. WALLACE.

I am like some of my fellow bee-keepers in regard to Mr. Robbins' theory of judging bees at Fairs. He claims that the three-banded bee should be the test, or, in other words, the finest marked bee. Now, I do not want to be understood that I condemn the three-banded bee at all, but if we can take the three-banded bee, and, by select and careful breeding, produce a four or five banded race, let us do it. We all try to improve all of our domestic animals. Look at the American horses, also cattle, hogs and sheep, in fact everything is improved that man has anything to do with, in the way of breeding and managing, from the horse down to the chicken.

Well, some will say that the four or five banded bees are worthless; that they will not gather much honey. Some will make one objection, and some another, but the main objection is because they have not got them. Why should their having a couple more yellow bands keep them from gathering as much honey as the three-banded race?

I have had some queens for the last two seasons that bred four and five banded bees, and I wish I had them all of that kind.

Condemning bees for having four and five bands, reminds me of what was said to me last Fall at the Sangamon County Fair, by a prominent bee-keeper. He asked, "Why are you breeding for color?" He intimated that he did not care for the color, it was the honey that he wanted. I saw an item in the AMERICAN BEE JOURNAL last Fall, stating that this man's bees had been moved to the river bottom, but they were so cross that he would have to leave them there until cold weather! I can move my bees in any kind of weather.

Suppose that we were to admit that the dark Italians, as some call them, or mixed bees, were to gather more honey than the four or five banded race (and then we would have to endanger our lives and everything around us to get it), would there then be any pleasure in bee-keeping? I think not, nor any profit either. But, on the other hand, I claim that the yellow bees will gather as much honey as the darker ones.

But there is one thing that I do know, and that is, some of the mixed bees have no sense at all.

Clipping the Queen's Wings.

MRS. L. HARRISON.

I have never practiced clipping the wings of queens, but I do not think it would injure their usefulness. I prefer a perfect queen, unmarred, with her gauzy wings lapped so neatly together over her back.

Where colonies of bees are located under large forest trees, it is often as much work to hive a swarm as they are worth. I know of an apiary thus situated, and the children watch them during swarming time, and as soon as they see a swarm issuing, they throw water on them to wet their wings, to keep them from clustering so high.

It would be well to clip the queen's wings in an apiary thus located. The swarm will issue all the same, and tumble to the ground in an effort to follow. A new hive can be placed where the one stood from which the swarm issued, and the queen put into it. As soon as the bees miss her, they will return to their old stand, and on entering the hive, find her and remain. If so desired, the hive can then be placed upon a new stand, and the old hive returned to its former place.

When a colony containing a clipped queen has swarmed several times, and returned, and the clipped queen crawls back into the hive, the bees become angry, and sting her to death, and rear another one which can follow them.

When the queens are clipped, the grounds surrounding the hives should be kept very clean and smooth, so she can readily be seen. If it is in grass, she might be stepped on.

No queen's wings should be clipped until fertile, for if they are, they cannot go out to meet the drones; all the eggs they lay will produce only drones, and the colony in time will die out, and the moths get the credit of destroying it. The queens can be clipped in the Spring when there are but few bees, so they can readily be seen. Some clip them when they are upon the comb, with a tiny sharp pair of scissors; others hold them by the shoulders, between the thumb and forefinger of the left hand.—*Orange Judd Farmer.*

The Grading of Comb-Honey.

GEO. R. WELLER.

The grading or classification of comb-honey, to be a success, must suit all localities, and work injustice to none. It must please dealers as well as producers, enable the latter to receive the best price possible, for whatever kind they have to sell, and the former to dispose of the different sorts with the least trouble, and yet give the best satisfaction to consumers.

The classification should give no information to the uninitiated. Many who would otherwise buy satisfactorily will not do so, if there is any mark to indicate that it was not the best. Let every crate be sold on its merits as honey, aided only by the attractiveness with which it is put up and displayed. The classification is solely to expedite business between producer and seller.

Three classes, of three grades each, seem to cover the ground, designated thus:

1. Class W, or white honey. 2. Class A, or straw-colored honey. 3. Class D, or dark honey.

Each class then should be divided into three grades, designated as follows:

Grade P, or perfect honey. Grade S, or satisfactory honey. Grade I, or imperfect honey.

There will not be a great deal of grade P—most of it will belong to grade S; the remainder to grade I.

Any one "posted" will know at a glance what is in a crate. Class D, grade S, very good, dark honey. Class A, grade P, the best straw-colored honey. Class W, grade I, low grade of white honey; and so on. A glance indicates the most important characteristic of honey—color—and tells also its condition. There are no adjectives, significant figures, XX's, etc., to embarrass the consumer.

To suit individual producers, or localities, the source can be stenciled on, as Buckwheat, White Clover, Golden-Rod, Basswood, etc., or adjectives used, as fancy, superfine, extra select, XXX, etc., in all cases being the individual or private mark of the producer or dealer, like his name, and bringing like it, what they are worth—no more.

The specifications of each grade should be plain, concise and simple. Grade P should contain nothing but sections about perfect. Certain consumers would willingly pay extra for it, for use on special occasions.

Grade S should contain all sections not faulty in some essential respect; while grade I would go to those to whom appearance was secondary to price.

All classification and grading done by marks indicative of quality will fail, because the temptation to use a higher mark to indicate a lower grade in order to obtain a better price, is irresistible. This is true of everything offered for sale.

This classification is for business; elastic enough to fit anybody, and broad enough for everybody to stand on. On top of it every man can "blow his own horn" on his crate, or otherwise, as he thinks will pay best.

When honey is specified as being of a certain class and grade, its appearance and condition are known; its quality must be made known by sample, or the producer's reputation

Practical use will soon indicate if additional grades or sub-grades are needed. These are plenty to begin with.

Berlin, Mo.

Black Bees vs. the Italians.

P. D. JONES.

I bought my first colony of bees in the Spring of 1848, paying $8 for them, and have had bees every year since then. I have had a great many hours of pleasure in looking after them, and taking off the tons of honey that I have sent to market. I have made bee-keeping a study all my life, and I am learning yet.

I have 200 chaff-packed hives, and a few others that I use in case of neces-

sity. I aim to keep them all full of bees, but the last two seasons have been so poor that I now have several empty hives.

I have been a reader of the AMERICAN BEE JOURNAL since 1871, and have read much that I can endorse, and much that I cannot. I cannot endorse all that is said in favor of the Italian bees. I have had them for 23 years. I bought my first queen of a queen-breeder, warranted pure, and paid $5 for her. I introduced her to the blacks in September all right; when June 1 came, the next Spring, I had as many black bees as yellow ones.

The next August I got 15 queens at $2.50 each, all pure, and have had Italians ever since. I often see it stated that they will work on red clover when black bees will not. Now I will give my reasons for not believing that.

A number of years ago, when I had Italianized my whole yard, I think that I had a fair chance to test them. The latter part of Summer, about 100 rods south of my yard, was a field of June clover in its second bloom. There was no bees west, nor east, for a long distance (unless by chance a swarm in the woods), and no woods nearer than half a mile.

South of the clover field, about 150 rods, were 7 colonies of pure Italians. There was but one colony of black bees between the yard of 7 colonies and my yard. I went to the field myself to see the Italians work on red clover, expecting to see them with their long tongues taking out the honey almost by spoonfuls; but what was my astonishment to find 19 out of every 20 bees on that clover field black bees, by actual count, no guess-work about it! Was that not a "stumper?" How could any one expect me to believe in the superior working qualities of the Italians after that, or rather, as their advocates claim they have.

I have had some ups and downs in the many years that I have kept bees, when the diarrhea raged so badly all over the country; I lost heavily, some Winters nearly all, but I would buy again in the Spring. I have paid as high as $65 for Italian queens in a single season, but have never found them to be as good for comb-honey as the blacks; their combs are so dark that I have had to crate the first quality of honey in with the second grade, on account of its dark appearance.

As to their looking out for themselves for Winter stores, I find that I have to feed them as often as I do the blacks. For comb-honey in sections, I consider one colony of blacks equal to two of Italians; still, they are not without some good qualities. I can find their queen in less time than it takes to find a black one; they adhere to their combs better, and do not run about so much.

I also think that, as a general thing, Italian bees are better-natured than the blacks; still, there are exceptions to them. The crossest colony of bees that I ever saw were Italians; you might go into the yard and point your finger at them, and then go, and take the consequences, which would not be very pleasant.

My experience with the Italians has been somewhat different from others that have kept them. I have often read and heard it said, that the dark or leather-colored were the best for comb-honey in sections. In the Fall of 1889, I bought a few queens to supply some queenless colonies; they were what are called "cheap" queens—too dark to put upon the market; but they produced the lightest colored bees that I ever had in my yard, and were the best honey gatherers. They came the nearest to the blacks of any that I ever had. If I have any queenless colonies next Fall, I shall call on the same breeder to supply me.

I do not wish to write, or say anything that will get up any unpleasant controversy, but I shall always vote for the black bees, until I find something better.

Ridge, N. Y.

Removing Pollen from Combs.

G. M. DOOLITTLE.

In many sections pollen is stored so largely by the bees that the combs become nearly solid with it. Where more is stored than is wanted in brood-rearing a good way to remove it is to take two quarts of boiling water and one pound of honey, shake this up together, put in a sprinkling pot and sprinkle both sides of the combs. Now put them in an old hive in a warm room, leaving them there until fermentation takes place, which will throw most of the pollen out. Sprinkle and rinse with warm water, shake the water off and hang them in the hives at night, one in each strong colony, when they will be all clean and bright the next morning.—*Rural Home.*

☞ **Subscribers who do not receive their papers promptly, should notify us at once.**

CONVENTION DIRECTORY.

Time and place of meeting.

1892.
May 5.—Susquehanna Co., at Brooklyn, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 12.—Connecticut, at Hartford, Conn.
Mrs. W. E. Riley, Sec., Waterbury, Conn.

May 17.—Northern Illinois, at Harlem, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

May 28.—Haldimand, at Nelles' Corners, Ont.
E. C. Campbell, Sec. Cayuga, Ont.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Eugene Secor..Forest City, Iowa.
SECRETARY—W. Z. Hutchinson....Flint, Mich.

National Bee-Keepers' Union.

PRESIDENT—James Heddon ..Dowagiac, Mich.
SEC'Y AND MANAGER—T. G. Newman, Chicago.

Bee and Honey Gossip.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Not One Colony Lost.

I have 40 colonies of bees, and they have all wintered well, and are in excellent condition. I have not lost a single colony. I winter my bees on the summer stands, placing an outside protection of boards about each hive, packing the space between the hive and the the outer protection with dried Autumn leaves. HENRY LA RUE.

Athens, N. Y., April 8, 1892.

Four and Five Banded Bees.

In reference to the four and five banded Italian bees, I do not know who was the first to produce them, but one thing I do know, and that is, I had about half dozen queens that bred four and five banded bees in the Spring of 1890. The next Winter or Spring Mr. Timpe offered such for sale. Since that time I have heard of a number of others that have them. Who was the first to produce them, I do not know. I have them, all the same, and I did not get them from any one else.

THOMAS S. WALLACE.

Bees in Central Iowa.

Bees that were wintered out-of-doors on the summer stands have come through so far with scarcely any loss. Those wintered in cellars and repositories are from ¼ to ⅓ dead; and their hives look as if they had come out of some barnyard heap. But there are about 90 per cent. too many bees in this part of the world yet; 15 colonies fed on sugar stores died in the cellar before Christmas, and one colony fed on white clover honey lived until March 10. To-day is April 8, and O what a day it has been! I have just been down into the cellar and covered the potatoes with blankets to keep them from freezing to-night. If it keeps on getting colder, as the sun travels north, by the time it gets up to the Tropic of Cancer, bees, people, animals, trees and everything will have changed into solid ice. We can only hope for one thing more—that the sun may change its course and travel south. W. P. FAYLOR.

La Porte, Iowa.

Bees Did Well Last Year.

High winds in this locality make it bad for bees located far from timber. Bees near timber usually do well, if cared for, but most people here are of the "slip-shod" kind. My bees did finely last year, storing 71 pounds per colony, of comb-honey; but I do not expect as big a yield this season, although my bees are in fine condition, and number 30 colonies. A. E. JAMESON.

Weeping Water, Nebr., April 6, 1892.

Unfavorable Wintering of Bees.

As the Winter may be said to be over, my Winter and Spring report may be in order. I use the 8-frame Simplicity-Langstroth hive. I adopted this size of hive for comb-honey, at the suggestion of an eminent comb-honey producer. As it is used with flat cover, I do not like it. It is too small to winter bees successfully. It is still worse adapted to weak colonies in Spring. I put away 50 colonies in fair condition as to strength. Two months from the time they were put into the cellar, they *had* to be put out, no matter how the north wind raved, no matter how the night behaved. I never saw such a sickly lot of bees—every colony was badly diseased. The smell was exceedingly offensive. The temperature of the cellar ranged from 40° to 50°—not too low, nor certainly

too high. To-day I have 4 feeble, sickly remnants of colonies left. Some hives had tight bottoms, some were removed; some had packing above, others none; some were left without anything above, just the naked frames, not a cover. All fared about alike. From the time they were put out they had several good flights, to be sure. At such times I would feel hopeful, but they kept getting smaller and beautifully less.

JAMES HAMILTON.

Beason, Ills., April 11, 1892.

Favorable Spring.

As a rule, bees have wintered well in this locality. My own results were poor, owing, I think, to my cellar being too damp. I lost about 30 per cent., caused by diarrhea, although all uncapped honey was extracted last Fall. Does it not seem to be more the conditions of wintering than poor food, that causes this trouble? Bees seem to have wintered better out-of-doors this Winter. So far the Spring has been favorable; brood-rearing is nicely under way, and willow and poplar are in bloom.

C. A. MONTAGUE.

Archie, Mich., April 7, 1892.

Wavelets of News.

Water for Bees.

Persons owning bees, and not located near streams of water, should furnish them fresh water daily, as it will save time which, to the bee, means honey, as it means money to a person. The way they frequent wells and cisterns shows that they prefer water fresh to stale, and they appear to enjoy sipping it from gravel and sand.

I have used milk-crocks filled with gravel and sand, but, on the whole, prefer wooden kegs with cloth put in them, hanging over the sides, acting as syphons. The bees sip water from the sunny side of the kegs. The kegs should be washed out frequently, and one should be a little brackish, about a teaspoonful to a pail of water.—*Exchange.*

Seasonable Hints.

Look out for those weak colonies when you take your bees out of winter quarters this Spring. All such should have the entrance to the hive contracted so that the bees can more easily guard themselves from robbers, and also to keep the hive warmer. Remove the frames not occupied by the bees, and put in division-boards close to the frames left in the hive, cover the frames with some kind of cloth, and be sure that the covers of the hives are tight, so as not to leave any draft through the hive.

Every bee-keeper should prepare for a large honey crop the coming season. Get plenty of everything ready beforehand, then when you need it you will have it ready to use. It is better to have a few hundred sections left unused at the close of the season than to lack 100 during the honey-flow. Leave nothing undone that will aid in getting the honey while it lasts, for the season is short, and the one who is not ready for the honey-flow is the one that "gets left."—J. W. BUCHANAN, in the *Western Farmer.*

Keeping the Queen in the Hive.

Neither clipping the queen's wings, nor any other advice to prevent her from leaving the hive will prevent swarming. It is not the queen that urges out the swarm. Bees will swarm whether the queen can leave the hive or not. The plan of clipping the wing of the queen, and all devices to capture the queen when a swarm issues, are only useful as helps to lessen the labor of managing the swarming nuisance. I prefer the plan of clipping the wing of the queen, to any of the devices yet brought to light. The swarming desire must be satisfied, if bees are expected to work and store honey.—*Michigan Farmer.*

Spiders in the Apiary.

I used to make war on them. Sorry to own it, but I formerly killed every one that I could. Ugh! the ugly things! How horrid! They might bite me. But I have repented in sackcloth and ashes. We have kissed and made up, and now we are the best of friends. I catch every one I can and carry it to a hive containing unoccupied combs, and put it in. You see our good friend Father Langstroth ("may his shadow ne'er grow less") called our attention to the fact that the spiders keep all the moth-worms from combs. Where the mother spider has her home, the moths cannot flourish. I sometimes take their eggs encased in a downy web, and place them into a hive of unoccupied comb, to live and flourish.—MRS. L. HARRISON, in the *Prairie Farmer.*

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HONEY AND BEESWAX MARKET.

CHICAGO, Apr. 16—Fancy white comb selling at 16c.; other grades 10@14c. Extracted slow demand, 6½@7½c. Beeswax, 26c.
S. T. FISH & CO., 189 S. Water St.

NEW YORK, Apr. 16.—Little demand, sufficient supply. We quote: Fancy white 1-lbs., 13@14c.; off grades, 11c.; buckwheat, 9c.—Extracted, California, white clover and basswood, 7@7½c.; Southern, 65@70c. per gallon. Beeswax, very scarce at 28@29c.
HILDRETH BROS. & SEGELKEN,
28-30 West Broadway.

KANSAS CITY, Mo., Apr. 16.—Demand light, supply large. Prices: No. 1 white comb, 13@14c.: No, 2 white, 10@12c. Extracted, white, 6@7c.; amber, 6@6½c.; dark, 5c. Beeswax—Demand good, supply light. Price, 22@27c.
CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

CINCINNATI, Apr. 16.—Demand is slow for comb with good supply. Price, 12@15c. Demand for extracted is fair at 5@8c.
Beeswax is in good demand, at 25@27c for good to choice yellow.
C. F. MUTH & SON,
Cor. Freeman & Central Aves.

NEW YORK, Apr. 16.—Demand for honey is very moderate, supply good, exceeding the demand. There is little demand for fancy 1-lbs. Market pretty well cleaned up of that grade, but plenty of fair. Prices: Comb, clover, 8@12c.; buckwheat, 7@9c. Extracted, clover, 6½@7c.; buckwheat, 5½@6c. Beeswax—Demand fair, supply plenty for demand, at 27@29
CHAS. ISRAEL & BROS., 110 Hudson St.

KANSAS CITY, Mo., Apr. 16—Demand poor, supply light of comb. Fancy 1-lbs., 12@13c.; dark, 8@9c. Extracted, white, 7c.; dark, 5@6 No beeswax on the market.
HAMBLIN & BEARSS, 514 Walnut St.

DETROIT, Apr. 16.—The demand is slow, and supply fair, and will be absorbed by time new crop comes. Comb, 11@12½c. Extracted, 7@8c. Beeswax—Demand moderate, supply fair; price, 27@28c.
M. H. HUNT, Bell Branch, Mich.

CHICAGO, Apr. 16.—Demand fair and supply short on fancy stock. Comb, 14@15c. Extracted, slow sale at 6@7c. Beeswax—Demand good, supply short on prime yellow; price, 25@28c.
J. A. LAMON, 44-46 S. Water St.

MILWAUKEE, Apr. 16.—Demand very moderate, supply average of all grades but common quality. Best 1-lbs. 15@16c; common, 12@13c. Extracted, white, in barrels, 7c.; in kegs, 7½c; in pails, 7½@8c. Beeswax—demand fair, supply small. Price, 23@28c.
A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO, Apr. 16.—Demand light, supply about exhausted. Comb, 1-lb., 10@12c. Extracted, 5¼@6¾c. Beeswax, in light supply and good demand, at 25@27c.
SCHACHT, LEMCKE & STEINER,
16 Drumm Street.

NEW YORK, Apr. 16.—Demand moderate, and supply reduced, with no more glassed 1-lb nor paper cartons, 1-lb. We quote: Comb, 1-lb, 14@15c. Extracted—Basswood, 7¼@7½c; buckwheat, 5½@6¼; Mangrove, 68@75c per gal. Good demand for dark extracted honey. Beeswax, in fair supply, with small demand, at 26@27c.
F. G. STROHMEYER & CO., 120 Pearl St.

CHICAGO, Apr. 16.—Demand is slow, supply fair, but not excessive, and market should clean up. Prices: Comb, 15c. is about the top. Extracted, 6, 7@8c.; supply small. Beeswax—Demand good, supply better than last season. Price, 27c. for yellow.
R. A. BURNETT, 161 S. Water St.

BOSTON, Apr. 16.—Demand is light, supply fair. We quote: 1-lb. fancy white comb, 13@15c; extracted, 6@7c. Beeswax—Demand fair, supply light. Price, 28c.
BLAKE & RIPLEY, 57 Chatham St.

MINNEAPOLIS, MINN., Apr. 16.—Demand is moderate, supply of dark is large, but white is not so plentiful. Prices: Dark comb, 10@13c.; white, 15@17c. Extracted, supply plenty. Beeswax—Demand good, supply small.
STEWART & ELLIOTT.

NEW YORK, Apr. 16.—Demand is light, and supply large, except buckwheat comb. We quote: Fancy white comb, 12@14c; buckwheat, 9@11c. Extracted—Clover and basswood in good demand at 6½@7c; buckwheat ind emand at 5@6c. Beeswax in fair demand at 26@28c.
F. I. SAGE & SON, 183 Reade St.

ALBANY, N. Y., Apr. 16.—Demand is very little for comb at 8@12c. Market quiet. Extracted, 6@7c. Beeswax in good demand at 28@30c. for good stock.
H. R. WRIGHT, 326-328 Broadway.

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